```
0X0000 - 04/17/2017 08:13:52.233 - None Found
0X0000 - 04/17/2017 08:18:51.320 - None Found
0X0000 - 04/17/2017 08:21:37.531 - None Found
0X0000 - 04/17/2017 08:23:50.722 - None Found
0X0000 - 04/17/2017 08:25:25.248 - None Found
0X0000 - 04/17/2017 08:26:53.670 - None Found
0X0000 - 04/17/2017 08:28:51.670 - None Found
0X0000 - 04/17/2017 08:30:53.749 - None Found
0X0000 - 04/17/2017 08:32:26.777 - None Found
0X0000 - 04/17/2017 08:44:59.835 - None Found
0X0003 - 04/17/2017 08:46:47.155 - GPS receiver not responding
0X0000 - 04/17/2017 08:48:23.454 - None Found
0X0000 - 04/17/2017 09:14:55.133 - None Found
0X0000 - 04/17/2017 09:45:59.137 - None Found
0X0000 - 04/17/2017 10:29:28.346 - None Found
0X0000 - 04/17/2017 11:38:28.364 - None Found
0X0000 - 04/17/2017 11:42:55.632 - None Found
0X0000 - 04/17/2017 11:46:18.774 - None Found
0X0000 - 04/17/2017 11:47:57.768 - None Found
0X0000 - 04/17/2017 11:50:31.297 - None Found
0X0000 - 04/17/2017 11:53:10.667 - None Found
0X0000 - 04/17/2017 11:56:40.746 - None Found
0X0000 - 04/17/2017 11:58:51.589 - None Found
Warnings:
0X0000 - 04/17/2017 08:13:52.233 - None Found
0X0000 - 04/17/2017 08:18:51.320 - None Found
0X0000 - 04/17/2017 08:21:37.532 - None Found
0X0000 - 04/17/2017 08:23:50.722 - None Found
0X0000 - 04/17/2017 08:25:25.248 - None Found
0X0000 - 04/17/2017 08:26:53.670 - None Found
0X0000 - 04/17/2017 08:28:51.670 - None Found
0X0000 - 04/17/2017 08:30:53.749 - None Found
0X0000 - 04/17/2017 08:32:26.777 - None Found
0X0000 - 04/17/2017 08:44:59.835 - None Found
0X0000 - 04/17/2017 08:46:50.176 - None Found
0X0000 - 04/17/2017 08:48:23.455 - None Found
WARNING, 09:00:14.694, 0xE505 - 04/17/2017 09:00:14.023 - FID over-range
```

Faults:

```
WARNING, 09:00:44.924, 0xE505 - 04/17/2017 09:00:44.605 - FID over-range
WARNING,09:01:09.565,0xE505 - 04/17/2017 09:01:09.037 - FID over-range
WARNING,09:06:09.835,0xE505 - 04/17/2017 09:06:09.150 - FID over-range
WARNING, 09:06:26.973, 0xE505 - 04/17/2017 09:06:26.579 - FID over-range
0X0000 - 04/17/2017 09:14:55.133 - None Found
WARNING, 09:26:48.277, 0xE505 - 04/17/2017 09:26:48.049 - FID over-range
WARNING, 09:27:16.439, 0xE505 - 04/17/2017 09:27:16.009 - FID over-range
WARNING, 09:33:21.538, 0xE505 - 04/17/2017 09:33:21.034 - FID over-range
WARNING, 09:33:54.001, 0xE505 - 04/17/2017 09:33:53.550 - FID over-range
WARNING, 09:36:25.795, 0xE505 - 04/17/2017 09:36:25.016 - FID over-range
WARNING, 09:42:11.577, 0xE505 - 04/17/2017 09:42:11.049 - FID over-range
WARNING, 09:42:38.771, 0xE505 - 04/17/2017 09:42:38.540 - FID over-range
0X0000 - 04/17/2017 09:45:59.138 - None Found
WARNING, 09:50:02.571, 0xE505 - 04/17/2017 09:50:02.006 - FID over-range
WARNING, 09:50:29.456, 0xE505 - 04/17/2017 09:50:29.045 - FID over-range
WARNING, 09:50:54.576, 0xE505 - 04/17/2017 09:50:54.036 - FID over-range
WARNING, 09:54:35.880, 0xE505 - 04/17/2017 09:54:35.688 - FID over-range
WARNING, 09:59:03.882, 0xE505 - 04/17/2017 09:59:03.640 - FID over-range
WARNING, 09:59:59.602, 0xE505 - 04/17/2017 09:59:59.038 - FID over-range
WARNING, 10:00:39.430, 0xE505 - 04/17/2017 10:00:39.080 - FID over-range
WARNING, 10:00:53.350, 0xE505 - 04/17/2017 10:00:53.007 - FID over-range
WARNING, 10:01:03.451, 0xE505 - 04/17/2017 10:01:03.040 - FID over-range
WARNING, 10:04:22.632, 0xE505 - 04/17/2017 10:04:22.184 - FID over-range
WARNING, 10:06:10.429, 0xE505 - 04/17/2017 10:06:10.032 - FID over-range
WARNING, 10:06:45.837, 0xE505 - 04/17/2017 10:06:45.036 - FID over-range
WARNING, 10:10:20.862, 0xE505 - 04/17/2017 10:10:20.724 - FID over-range
WARNING, 10:11:58.893, 0xE505 - 04/17/2017 10:11:58.541 - FID over-range
WARNING, 10:12:05.344,0xE505 - 04/17/2017 10:12:05.030 - FID over-range
WARNING, 10:14:23.539, 0xE505 - 04/17/2017 10:14:23.011 - FID over-range
WARNING, 10:19:04.989, 0xE505 - 04/17/2017 10:19:04.546 - FID over-range
WARNING, 10:25:58.775, 0xE505 - 04/17/2017 10:25:58.533 - FID over-range
0X0000 - 04/17/2017 10:29:28.346 - None Found
WARNING, 10:31:02.938, 0xE505 - 04/17/2017 10:31:02.588 - FID over-range
WARNING, 10:32:21.305, 0xE505 - 04/17/2017 10:32:21.011 - FID over-range
WARNING, 10:32:31.773, 0xE505 - 04/17/2017 10:32:31.512 - FID over-range
WARNING, 10:33:02.527, 0xE505 - 04/17/2017 10:33:02.021 - FID over-range
WARNING, 10:35:39.472, 0xE505 - 04/17/2017 10:35:39.052 - FID over-range
WARNING, 10:35:52.367, 0xE505 - 04/17/2017 10:35:52.005 - FID over-range
WARNING, 10:38:15.559, 0xE505 - 04/17/2017 10:38:15.020 - FID over-range
```

```
WARNING, 10:38:53.860, 0xE505 - 04/17/2017 10:38:53.566 - FID over-range
WARNING, 10:39:01.360, 0xE505 - 04/17/2017 10:39:01.057 - FID over-range
WARNING, 10:43:01.393, 0xE505 - 04/17/2017 10:43:01.078 - FID over-range
WARNING, 11:14:13.569, 0xE505 - 04/17/2017 11:14:13.032 - FID over-range
WARNING, 11:15:45.489, 0xE505 - 04/17/2017 11:15:45.019 - FID over-range
WARNING, 11:16:50.499, 0xE505 - 04/17/2017 11:16:50.033 - FID over-range
WARNING, 11:17:22.670, 0xE505 - 04/17/2017 11:17:22.032 - FID over-range
WARNING, 11:20:05.463, 0xE505 - 04/17/2017 11:20:05.048 - FID over-range
WARNING, 11:25:08.771, 0xE505 - 04/17/2017 11:25:07.840 - FID over-range
WARNING, 11:28:33.501, 0xE505 - 04/17/2017 11:28:33.099 - FID over-range
WARNING, 11:29:43.554, 0xE505 - 04/17/2017 11:29:42.898 - FID over-range
WARNING, 11:30:01.758, 0xE505 - 04/17/2017 11:30:01.038 - FID over-range
0X0000 - 04/17/2017 11:38:28.364 - None Found
0X0000 - 04/17/2017 11:42:55.633 - None Found
0X0000 - 04/17/2017 11:46:18.775 - None Found
0X0000 - 04/17/2017 11:47:57.768 - None Found
0X0000 - 04/17/2017 11:50:31.297 - None Found
0X0000 - 04/17/2017 11:53:10.667 - None Found
0X0000 - 04/17/2017 11:56:40.746 - None Found
0X0000 - 04/17/2017 11:58:51.589 - None Found
Post Processor Limits:
Engine Speed Limit (rpm/s), 1000.000000
Vehicle Speed Limit (mph/s), 21.000000
Fuel Rate Limit (gal/s), 0.050000
Reference Torque Limit (lb-ft), 10000.000000
Fuel Specific Dropout Limit(% C), 0.500000
Brake Specific Dropout Limit (bhp-h), 0.005000
FID Range Change Ignore, 4
Post Processor Limit Events:
Engine Speed Limit Count, 13
Vehicle Speed Limit Count, 0
GPS Speed Limit Count, 0
Fuel Rate Limit Count, 0
Reference Torque Limit Count, 0
Fuel Specific Dropout Limit Count, 0
Brake Specific Dropout Limit Count, 0
FID Range Change Ignore Count, 0
External Input Configuration:
```

```
, ID, Description, Units, Polynomial Order, x^0, x^1, x^2, x^3, x^4, x^5, x^6, x^7, x^8, x^9
EAI1,,,,0,0.0000000
EAI2,,,,0,0.0000000
EAI3,,,,0,0.0000000
Audit/Span/Zero Information:
Zero
InfoVer.1
Date, 4/17/2017
Time, 08:13:51
Purge Delay, 30
Gas Path, Zero
Gas, Previous, Current, Difference
CO(ppm),-50.000000,-10.000000,-40.000000
CO2(%),0.070000,0.000000,0.070000
NO(ppm), 13.800000, 5.580000, 8.220000
NO2(ppm), 10.743750, -0.260000, 11.003750
THC(ppmC), 6.000000, 1.600000, 4.400000
Span
InfoVer, 1
Date, 4/17/2017
Time, 08:18:51
Purge Delay, 30
Gas Path, Span
,CO,CO2,O2,HC,NO,NO2,CH4,THC,LoCO
Bottle Values, 1310.000, 13.000000, 20.900, 1992.000, 1771.000, 255.800, 0.000, 246.667, 0.000
Gas, Previous, Current, Difference
CO(ppm), 1320.000000, 1306.000000, 14.000000
CO2(%),13.408125,13.014000,0.394125
NO(ppm), 1861.031250, 1771.260000, 89.771250
THC(ppmC), 246.856250, 245.893333, 0.962917
Span
InfoVer, 1
Date, 4/17/2017
Time, 08:21:37
Purge Delay, 30
Gas Path, Span
,CO,CO2,O2,HC,NO,NO2,CH4,THC,LoCO
```

```
Bottle Values, 1310.000, 13.000000, 20.900, 1992.000, 1771.000, 255.800, 0.000, 246.667, 0.000
Gas, Previous, Current, Difference
NO2(ppm),247.887500,255.206667,-7.319167
Audit
Date, 4/17/2017
Time, 08:23:50
Audit Duration, 30
Idle Duration, 15
Audit Path, Span
Idle Path, Ambient Air
Gas, Bottle, Tol, %Tol
CO (ppm), 303.000000, 50.000000, 3.000000
CO2 (%),5.110000,0.200000,3.000000
02 (%),20.900000,0.500000,3.000000
HC (ppmC3), 0.000000, 8.000000, 3.000000
NO (ppm), 294.700000, 15.000000, 3.000000
NO2 (ppm), 68.000000, 12.000000, 3.000000
CH4 (ppm), 0.000000, 0.000000, 0.000000
THC (ppmC3), 77.820000, 6.000000, 3.000000
Gas, Bottle, Mean Value, Std Dev, Result
CO(ppm), 303.000000, 301.333333, 3.518658, Passed
CO2(%),5.110000,4.776667,0.008165,Failed
02(%),20.900000,10.000000,0.000000,Not Selected
HC(ppmC3), 0.000000, 500.000000, 0.000000, Not Selected
NO(ppm), 294.700000, 283.326667, 0.208624, Passed
NO2(ppm),68.000000,100.000000,0.000000,Not Selected
CH4(ppm), 0.000000, 0.000000, 0.000000, Not Selected
THC(ppmC), 77.820000, 71.855556, 1.891781, Passed
Zero
InfoVer, 1
Date, 4/17/2017
Time, 08:25:24
Purge Delay, 30
Gas Path, Zero
Gas, Previous, Current, Difference
```

CO(ppm),-9.375000,-4.000000,-5.375000

CO2(%),-0.150000,0.000000,-0.150000

Date, 4/17/2017 Time, 08:26:53 Audit Duration, 30 Idle Duration, 15 Audit Path, Span Idle Path, Ambient Air Gas, Bottle, Tol, %Tol CO (ppm), 303.000000, 50.000000, 3.000000 CO2 (%),5.110000,0.200000,3.000000 02 (%),20.900000,0.500000,3.000000 HC (ppmC3), 0.000000, 8.000000, 3.000000 NO (ppm), 294.700000, 15.000000, 3.000000 NO2 (ppm), 68.000000, 12.000000, 3.000000 CH4 (ppm), 0.000000, 0.000000, 0.000000 THC (ppmC3),77.820000,6.000000,3.000000 Gas, Bottle, Mean Value, Std Dev, Result CO(ppm), 303.000000, 0.100000, 0.000000, Not Selected CO2(%),5.110000,5.170000,0.000000,Passed 02(%),20.900000,10.000000,0.000000,Not Selected HC(ppmC3), 0.000000, 500.000000, 0.000000, Not Selected NO(ppm), 294.700000, 500.000000, 0.000000, Not Selected NO2(ppm),68.000000,100.000000,0.000000,Not Selected CH4(ppm), 0.000000, 0.000000, 0.000000, Not Selected THC(ppmC),77.820000,0.000000,0.000000,Not Selected Audit Date, 4/17/2017 Time, 08:28:51 Audit Duration, 30 Idle Duration, 15 Audit Path, Span Idle Path, Ambient Air Gas, Bottle, Tol, %Tol CO (ppm), 303.000000, 50.000000, 3.000000 CO2 (%),5.110000,0.200000,3.000000 02 (%),20.900000,0.500000,3.000000 HC (ppmC3), 0.000000, 8.000000, 3.000000 NO (ppm), 294.700000, 15.000000, 3.000000 NO2 (ppm), 68.000000, 12.000000, 3.000000

Audit

CH4 (ppm), 0.000000, 0.000000, 0.000000 THC (ppmC3),77.820000,6.000000,3.000000 Gas, Bottle, Mean Value, Std Dev, Result CO(ppm), 303.000000, 0.100000, 0.000000, Not Selected CO2(%),5.110000,0.030000,NaN,Not Selected 02(%),20.900000,10.000000,0.000000,Not Selected HC(ppmC3), 0.000000, 500.000000, 0.000000, Not Selected NO(ppm), 294.700000, 500.000000, 0.000000, Not Selected NO2(ppm),68.000000,52.680000,0.126491,Failed CH4(ppm), 0.000000, 0.000000, 0.000000, Not Selected THC(ppmC),77.820000,0.000000,0.000000,Not Selected Zero InfoVer, 1 Date, 4/17/2017 Time, 08:30:53 Purge Delay, 30 Gas Path, Zero Gas, Previous, Current, Difference NO(ppm),-6.593750,-0.200000,-6.393750 NO2(ppm),-8.800000,0.173333,-8.973333 Audit Date, 4/17/2017 Time, 08:32:26 Audit Duration, 30 Idle Duration, 15 Audit Path, Span Idle Path, Ambient Air Gas, Bottle, Tol, %Tol CO (ppm), 303.000000, 50.000000, 3.000000 CO2 (%),5.110000,0.200000,3.000000 02 (%),20.900000,0.500000,3.000000 HC (ppmC3), 0.000000, 8.000000, 3.000000 NO (ppm), 294.700000, 15.000000, 3.000000 NO2 (ppm), 68.000000, 12.000000, 3.000000 CH4 (ppm), 0.000000, 0.000000, 0.000000 THC (ppmC3), 77.820000, 6.000000, 3.000000 Gas, Bottle, Mean Value, Std Dev, Result

CO(ppm), 303.000000, 0.100000, 0.000000, Not Selected CO2(%),5.110000,1.000000,0.000000,Not Selected 02(%),20.900000,10.000000,0.000000,Not Selected HC(ppmC3), 0.000000, 500.000000, 0.000000, Not Selected NO(ppm), 294.700000, 500.000000, 0.000000, Not Selected NO2(ppm), 68.000000, 62.366667, 0.048795, Passed CH4(ppm), 0.000000, 0.000000, 0.000000, Not Selected THC(ppmC), 77.820000, 0.000000, 0.000000, Not Selected Zero InfoVer, 1 Date, 4/17/2017 Time, 11:38:28 Purge Delay, 30 Gas Path, Zero Zero InfoVer, 1 Date, 4/17/2017 Time, 11:38:28 Purge Delay, 30 Gas Path, Zero Gas, Previous, Current, Difference CO(ppm), 46.250000, 20.000000, 26.250000 CO2(%),0.010000,0.218667,-0.208667 NO(ppm),-10.300000,33.526667,-43.826667 NO2(ppm),5.293750,-3.266667,8.560417 THC(ppmC),-11.000000,-1.400000,-9.600000 Zero InfoVer, 1 Date, 4/17/2017 Time, 11:42:55 Purge Delay, 30 Gas Path, Zero Gas, Previous, Current, Difference CO(ppm), 20.000000, 0.000000, 20.000000 CO2(%), 0.219375, -0.010000, 0.229375 NO(ppm), 35.293750, 0.000000, 35.293750 NO2(ppm),-4.000000,0.046667,-4.046667

```
THC(ppmC),-0.125000,-0.066667,-0.058333
Zero
InfoVer, 1
Date, 4/17/2017
Time, 11:46:18
Purge Delay, 30
Gas Path, Zero
Gas, Previous, Current, Difference
NO(ppm), 0.743750, 0.000000, 0.743750
Span
InfoVer, 1
Date, 4/17/2017
Time, 11:47:57
Purge Delay, 30
Gas Path, Span
,CO,CO2,O2,HC,NO,NO2,CH4,THC,LoCO
Bottle Values, 1310.000, 13.000000, 20.900, 1992.000, 1771.000, 255.800, 0.000, 246.667, 0.000
Gas, Previous, Current, Difference
CO(ppm), 1300.000000, 1300.666667, -0.666667
CO2(%),12.771250,13.007333,-0.236083
NO(ppm), 1712.450000, 1772.120000, -59.670000
THC(ppmC), 244.114583, 246.006667, -1.892083
Span
InfoVer, 1
Date, 4/17/2017
Time, 11:50:31
Purge Delay, 30
Gas Path, Span
,CO,CO2,O2,HC,NO,NO2,CH4,THC,LoCO
Bottle Values, 1310.000, 13.000000, 20.900, 1992.000, 1771.000, 255.800, 0.000, 246.667, 0.000
Gas, Previous, Current, Difference
NO2(ppm), 263.156250, 256.420000, 6.736250
Zero
InfoVer, 1
Date, 4/17/2017
Time, 11:53:10
```

Gas Path, Zero Gas, Previous, Current, Difference CO(ppm), -27.500000, 0.000000, -27.500000CO2(%),-0.216250,-0.010000,-0.206250 NO(ppm),-28.868750,1.160000,-30.028750 NO2(ppm),-0.800000,0.580000,-1.380000 THC(ppmC),-10.937500,-3.066667,-7.870833 Audit Date, 4/17/2017 Time, 11:56:40 Audit Duration, 30 Idle Duration, 15 Audit Path, Span Idle Path, Ambient Air Gas, Bottle, Tol, %Tol CO (ppm), 303.000000, 50.000000, 3.000000 CO2 (%),5.110000,0.200000,3.000000 02 (%),20.900000,0.500000,3.000000 HC (ppmC3), 0.000000, 8.000000, 3.000000 NO (ppm), 294.700000, 15.000000, 3.000000 NO2 (ppm), 68.000000, 12.000000, 3.000000 CH4 (ppm), 0.000000, 0.000000, 0.000000 THC (ppmC3), 77.820000, 6.000000, 3.000000 Gas, Bottle, Mean Value, Std Dev, Result CO(ppm), 303.000000, 315.333333, 5.163978, Passed CO2(%),5.110000,5.230000,NaN,Passed 02(%),20.900000,10.000000,0.000000,Not Selected HC(ppmC3), 0.000000, 500.000000, 0.000000, Not Selected NO(ppm), 294.700000, 301.733333, 0.163299, Passed NO2(ppm),68.000000,100.000000,0.000000,Not Selected CH4(ppm), 0.000000, 0.000000, 0.000000, Not Selected THC(ppmC), 77.820000, 75.411111, 1.870687, Passed Audit Date, 4/17/2017 Time, 11:58:51 Audit Duration, 30 Idle Duration, 15

Purge Delay, 30

Audit Path, Span Idle Path, Ambient Air Gas, Bottle, Tol, %Tol CO (ppm), 303.000000, 50.000000, 3.000000 CO2 (%),5.110000,0.200000,3.000000 02 (%),20.900000,0.500000,3.000000 HC (ppmC3), 0.000000, 8.000000, 3.000000 NO (ppm), 294.700000, 15.000000, 3.000000 NO2 (ppm), 68.000000, 12.000000, 3.000000 CH4 (ppm), 0.000000, 0.000000, 0.000000 THC (ppmC3),77.820000,6.000000,3.000000 Gas, Bottle, Mean Value, Std Dev, Result CO(ppm), 303.000000, 0.100000, 0.000000, Not Selected CO2(%),5.110000,1.000000,0.000000,Not Selected 02(%),20.900000,10.000000,0.000000,Not Selected HC(ppmC3), 0.000000, 500.000000, 0.000000, Not Selected NO(ppm), 294.700000, 500.000000, 0.000000, Not Selected NO2(ppm), 68.000000, 60.653333, 0.168466, Passed CH4(ppm), 0.000000, 0.000000, 0.000000, Not Selected THC(ppmC), 77.820000, 0.000000, 0.000000, Not Selected

Test Information:

SEMTECH_DATA_FILE,04/17/2017,07:58:14.867,[RELEASE_VER=2.018 BUILD=184 BDATE=03/03/2016 IP=10.10.1.55]

No Information Available

[TIME ALIGN OPTIMIZE]